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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,276

11/20/2003

Phuong-Nghi Lam

Q169-US1

3190

31815

7590

11/28/2006

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EXAMINER

YUAN, DAH WEI D

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

4

**Office Action Summary**

Application No.

10/719,276

Applicant(s)

LAM ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5, 7-22, 24, 25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-9, 12-22, 24, 25 and 27 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11202003.04272004</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1745

**PRIMARY BATTERY**

Examiner: Yuan

S.N. 10/719,276

Art Unit: 1745

November 21, 2006

***Election/Restrictions***

1. Applicant's election without traverse of Group I-1, claims 1-3,5,7-22,24,25,27, in Paper filed October 31, 2006 is acknowledged. Claims 28-138 were canceled.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3,5,7,8,13-17,19-22,24,27 are rejected under 35 U.S.C. 102(e) as being anticipated by Munshi et al. (2003/0211383 A1).

With respect to claims 1-3,5,7,8,13-17,20-22,24,27, Munshi et al. teach a primary lithium battery comprising a lithium anode, a CF<sub>x</sub> (fluorinated carbon) cathode and a non-aqueous

electrolyte comprising lithium bis(oxalato)borate. See paragraphs 20,24. Munshi et al. do not specifically disclose the component having a decomposition voltage of between about 1 V and the battery discharge voltage, the battery discharge voltage being higher than 1 V and the actual capacity of the battery. However, it is the position of the examiner that such properties are inherent, given that both Munshi et al. and the present application utilize the same chemistry in the battery. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claims 19, Munshi et al. teach the use of polyethylene oxide as the electrolyte. See paragraph 26.

5. Claims 1,5,8,12-22,27 are rejected under 35 U.S.C. 102(b) as being anticipated by Skotheim (US 5,462,566).

With respect to claims 1,5,8,12-17,20-22,27, Skotheim et al. teach a primary lithium battery comprising a lithium anode, a carbon cathode and a non-aqueous electrolyte comprising carbon disulfide. See Column 6, Lines 16-26. Skotheim does not specifically disclose the component having a decomposition voltage of between about 1 V and the battery discharge voltage, the battery discharge voltage being higher than 1 V and the actual capacity of the battery. However, it is the position of the examiner that such properties are inherent, given that both Skotheim and the present application disclose the same chemistry in the battery. A reference which is silent about a claimed invention's features is inherently anticipatory if the

missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claims 18, Skotheim et al. teach addition of propylene carbonate in the polymer electrolyte. See Column 4, Lines 59-67.

With respect to claims 19, Skotheim et al. teach the use of polymer electrolyte. See Column 6, Lines 16-26.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munshi et al. (2003/0211383 A1) as applied to 1-3,5,7,8,13-17,19-22,24,27 above, and further in view of Schmidt et al. (US 2002/0183800 A1).

Munshi et al. disclose a primary battery as described above in Paragraph 4. However, Munshi et al. do not disclose the one or more cathodes include vanadium oxide. Schmidt et al. teach a primary battery, wherein a hybrid CF<sub>x</sub>-vanadium oxide is used as the cathode active material to yield high energy density and high discharge rate. See paragraphs 6,46,75 and claim3. Therefore, it would have been obvious to one of ordinary skill in the art to add

vanadium oxide onto the cathode of Munshi et al., because Schmidt et al. teach the use of hybrid  $\text{CF}_x$ -vanadium oxide electrode to achieve high energy density and high discharge rate.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Skotheim (US 5,462,566) as applied to claims 1,5,8,12-22,27 above, and further in view of Takeuchi et al. (US 5,874,184).

Takeuchi et al. teach a polymer electrolyte battery, wherein the cathode comprises lithium or lithium alloy and the anode comprises a carbon material. The organic compound that can be added as a plasticizer in the solid polymer electrolyte includes ethylene carbonate, propylene carbonate, diethyl carbonate and vinylene carbonate. See Column 7, Lines 59-65; Column 20, Lines 30-51. Evidently, ethylene carbonate, propylene carbonate, diethyl carbonate and vinylene carbonate are considered functionally equivalent plasticizer for the polymer electrolyte. Therefore, it would have been obvious to one of ordinary skill in the art to substitute vinylene carbonate for the propylene carbonate in the polymer electrolyte disclosed by Skotheim.

***Allowable Subject Matter***

9. Claims 10,11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 10 would be allowable because the prior art does not disclose or suggest the component is selected from the group consisting of lithium cyclopentadienide and

Art Unit: 1745

lithium tetramethylcyclopentadienide. Claim 11 would be allowable because the prior art does not disclose or suggest the compound includes vinyl sulfolane.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan  
November 21, 2006



**DAH-WEI YUAN**  
**PRIMARY EXAMINER**